

Dw C

What is claimed is:

1. A bacterium belonging to the genus *Escherichia* and having an ability to produce an L-amino acid, wherein the ability to produce the L-amino acid is increased by increasing an expression amount of at least one protein selected from the group consisting of the following proteins of (A) to (H):
 - (A) a protein having an amino acid sequence shown in SEQ ID NO: 10 in Sequence Listing;
 - 10 (B) a protein which has an amino acid sequence including deletion, substitution, insertion, addition or inversion of one or several amino acids in the amino acid sequence shown in SEQ ID NO: 10 in Sequence Listing, and which has an activity of increasing the ability to produce the L-amino acid of the bacterium having the protein;
 - 15 (C) a protein having an amino acid sequence shown in SEQ ID NO: 12 in Sequence Listing;
 - (D) a protein which has an amino acid sequence including deletion, substitution, insertion, addition or inversion of one or several amino acids in the amino acid sequence shown in SEQ ID NO: 12 in Sequence Listing, and which has an activity of increasing the ability to produce the L-amino acid of the bacterium having the protein;
 - 20 (E) a protein having an amino acid sequence shown in SEQ ID NO: 14 in Sequence Listing;
 - (F) a protein which has an amino acid sequence including deletion, substitution, insertion, addition or inversion of one or several amino acids in the amino acid sequence shown in SEQ ID NO: 14 in Sequence Listing, and which has an activity of increasing the ability to produce the

SEARCHED
INDEXED
SERIALIZED
FILED

Ent C2
?

- L-amino acid of the bacterium having the protein;
- (G) a protein having an amino acid sequence shown in SEQ ID NO: 16 in Sequence Listing; or
- (H) a protein which has an amino acid sequence including deletion, substitution, insertion, addition or inversion of one or several amino acids in the amino acid sequence shown in SEQ ID NO: 16 in Sequence Listing, and which has an activity of increasing the ability to produce the L-amino acid of the bacterium having the protein.
2. The bacterium according to claim 1, wherein said L-amino acid is L-lysine and an expression amount of at least one protein selected from the group consisting of said proteins (A) to (D), (G) and (H) is increased.
3. The bacterium according to claim 1, wherein said L-amino acid is L-glutamic acid and an expression amount of at least one protein selected from the group consisting of said proteins (A) to (H) is increased.
4. The bacterium according to claim 1, wherein said L-amino acid is L-alanine and an expression amount of at least one protein selected from the group consisting of said proteins (C) and (D) is increased.
5. The bacterium according to claim 1, wherein said L-amino acid is L-valine and an expression amount of at least one protein selected from the group consisting of said proteins (C) and (D) is increased.
6. The bacterium according to claim 1, wherein said L-amino acid is L-histidine and an expression amount of at least one protein selected from the group consisting of said proteins (C) to (F) is increased.
7. The bacterium according to claim 1, wherein said L-

CONFIDENTIAL

amino acid is L-proline and an expression amount of at least one protein selected from the group consisting of said proteins (A) to (F) is increased.

8. The bacterium according to claim 1, wherein said L-amino acid is L-threonine and an expression amount of at least one protein selected from the group consisting of said proteins (E) and (F) is increased.

9. The bacterium according to claim 1, wherein said L-amino acid is L-arginine and an expression amount of at least one protein selected from the group consisting of said proteins (G) and (H) is increased.

10. The bacterium according to claim 1, wherein said L-amino acid is L-isoleucine and an expression amount of at least one protein selected from the group consisting of said proteins (C) and (D) is increased.

11. The bacterium according to any one of claims 1 to 10, wherein a copy number of a DNA coding for said protein in a cell is increased.

12. The bacterium according to claim 11, wherein said DNA is carried on a multicopy vector in the cell.

13. The bacterium according to claim 11, wherein said DNA is carried on a transposon in the cell.

14. A method for producing an L-amino acid, comprising the steps of:

25 cultivating the bacterium as defined in claim 1 in a culture medium, to produce and accumulate the L-amino acid in the medium, and

recovering the L-amino acid from the medium.

15. The method according to claim 14, wherein said L-amino acid is L-lysine and said bacterium is one in which an

SEARCHED
INDEXED
SERIALIZED
FILED

expression amount of at least one protein selected from the group consisting of said proteins (A) to (D), (G) and (H) is increased.

16. The method according to claim 14, wherein said L-amino acid is L-glutamic acid and said bacterium is one in which an expression amount of at least one protein selected from the group consisting of said proteins (A) to (H) is increased.

17. The method according to claim 14, wherein said L-amino acid is L-alanine and said bacterium is one in which an expression amount of at least one protein selected from the group consisting of said proteins (C) and (D) is increased.

18. The method according to claim 14, wherein said L-amino acid is L-valine and said bacterium is one in which an expression amount of at least one protein selected from the group consisting of said proteins (C) and (D) is increased.

19. The method according to claim 14, wherein said L-amino acid is L-histidine and said bacterium is one in which an expression amount of at least one protein selected from the group consisting of said proteins (C) to (F) is increased.

20. The method according to claim 14, wherein said L-amino acid is L-proline and said bacterium is one in which an expression amount of at least one protein selected from the group consisting of said proteins (A) to (F) is increased.

21. The method according to claim 14, wherein said L-amino acid is L-threonine and said bacterium is one in which an expression amount of at least one protein selected from the group consisting of said proteins (E) and (F) is increased.

22. The method according to claim 14, wherein said L-amino acid is L-arginine and said bacterium is one in which an

expression amount of at least one protein selected from the group consisting of said proteins (G) and (H) is increased.

23. The method according to claim 14, wherein said L-amino acid is L-isoleucine and said bacterium is one in which an

5 expression amount of at least one protein selected from the group consisting of said proteins (C) and (D) is increased.

24. The method according to any one of claims 14 to 23, wherein a copy number of a DNA coding for said protein in a cell of said bacterium is increased.

10 25. The method according to claim 24, wherein said DNA is carried on a multicopy vector in the cell.

26. The method according to claim 24, wherein said DNA is carried on a transposon in the cell.

add C3